S438 BMPs for Construction Demolition

Description of Pollutant Sources: This activity applies to removal of existing buildings and other structures by controlled explosions, wrecking balls, or manual methods, and subsequent clearing of the rubble. The loose debris may contaminate stormwater.

Pollutants of concern include toxic organic compounds (such as PCBs), hazardous wastes, high pH, heavy metals, and suspended solids.

PCBs were added to building materials before 1980 (such as caulk and other sealants, joint materials, paint, siding, roofing, and others), and now with age and weathering are at greater risk of being dislodged during demolition and renovation activities. Particles containing PCBs can be washed into the stormwater, contaminating the conveyance system and downstream water bodies, if not properly managed. PCB-containing building materials were more often used in public buildings such as schools, hospitals, universities, fire houses, police stations, government offices, military sites, as well as privately owned commercial and large multi-unit residential buildings. Recently, guidance has been developed for characterizing and abating PCBs in building materials that will undergo demolition or renovation (Ecology, 2024). The user should refer to this document for more details on preventing PCBs from entering stormwater.

Additional regulations regarding PCBs may apply, including but not limited to the federal Toxic Substances Control Act (TSCA). For more information, refer to the U.S. EPA's guidance for PCBs at the following web address:

https://www.epa.gov/pcbs

Pollutant Control Approach: Do not expose hazardous materials to stormwater. Regularly clean up debris that can contaminate stormwater. Protect the stormwater drainage system from dirty runoff and loose particles. Sweep paved surfaces daily. Educate employees about the need to control site activities. While awaiting active demolition, monitor the integrity of PCB-containing materials and take actions to prevent PCB-containing dust and solids from entering stormwater and stormwater conveyances.

Applicable Operational BMPs:

- Identify, remove, and properly dispose of hazardous substances from the building before beginning construction demolition activities that could expose them to stormwater. Such substances could include PCBs, asbestos, lead paint, mercury switches, and electronic waste.
- Educate employees about the need to control site activities to prevent stormwater pollution, and also train them in spill cleanup procedures.
- Keep debris containers, dumpsters, and debris piles covered.
- Place storm drain covers, or a similarly effective containment device, on all nearby drains to prevent dirty runoff and loose particles from entering the stormwater drainage system.

    - Place the covers (or devices) at the beginning of the workday.
    - Collect and properly dispose of the accumulated materials before removing the covers (or devices) at the end of the workday.
    - Use dikes, berms, or other methods to protect overland discharge paths from runoff if stormwater drains are not present.
- Sweep street gutters, sidewalks, driveways, and other paved surfaces in the immediate area of the demolition at the end of each workday. Collect and properly dispose of loose debris and garbage.
- Lightly spray water (such as from a hydrant or water truck) throughout the site to help control windblown fine materials such as soil, concrete dust, and paint chips. Control the amount of dust control water so that runoff from the site does not occur, yet dust control is achieved. Do not use oils for dust control.
- Follow the guidance document *How to Find and Address PCBs in Building Materials* (Ecology, 2024) for PCB-containing building materials undergoing demolition or renovation.
- Contact the local jurisdiction's stormwater program to inform them when PCB-containing materials are, or are likely to be, present.
- To prevent PCBs in building materials from entering stormwater during the demolition planning/preparation phase (i.e. prior to active demolition), routinely visually survey the areas where PCB-containing building materials are likely to exist to check that they have remained intact. If weathering (e.g. flaking, peeling) becomes noticeably worse as demolition planning continues, consider installing BMPs to prevent runoff containing PCBs from entering the stormwater conveyance system, such as:
    - install catch basin filter inserts
    - dry sweep adjacent hard surfaces
    - prevent washwater or irrigation water from coming into contact with the PCB-containing building materials
    - educate landscaping and maintenance staff about avoiding the use of leaf blowers around the building.

Recommended Operational BMPs:

- Construct a screen to prevent stray building materials and dust from escaping the area during demolition. Size and orient the screen to capture wind-blown materials and contain them onsite.
- Schedule demolition to take place at a dry time of the year to prevent stormwater runoff from the demolition site.